This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (currently amended) An array of protein-binding agents stably attached to the surface of a solid support, said array comprising:

a solid substrate having a substantially planar surface comprising a layer of aluminum formed on a glass base material, the aluminum coated with a silicon dioxide coating having a thickness of between about 200 and 900Å ~~configured to amplify a fluorescent signal from a labeled protein bound to the array~~;

a plurality of different protein-binding agents bound to said substrate, each of said protein-binding agents comprising,

an anchoring segment stably bound to the substrate surface,

a peptidomimetic protein-binding segment, and

a linker segment connecting and separating the anchoring and peptidomimetic segments.

2-59. (canceled)

60. (previously presented) The array of claim 1, wherein said substrate surface further comprises an organic chemical modification group between the oxide and the protein-binding agents.

61. (previously presented) The array of claim 60, wherein said organic chemical modification group comprises an aminosilane.

62. (previously presented) The array of claim 61, wherein said aminosilane is functionalized with a maleimide.

63. (previously presented) The array of claim 62, wherein said peptidomimetic segment is a peptoid.

64. (previously presented) The array of claim 63, wherein said linker segment is selected from the group consisting of C2 – C100 aliphatic chains, polyethylene oxide, an orthogonal peptidomimetic or peptide oligomers.

65. (previously presented) The array of claim 64, wherein said anchoring segment is a thiol.

66. (previously presented) The array of claim 61, wherein said aminosilane is functionalized with an agent selected from the group consisting of hydrazide, aminooxy, N-hydroxysuccinimide, anhydride, aldehyde, disulfide, thiol, azide and phosphine.

67. (previously presented) The array of claim 61, wherein said aminosilane is functionalized with an avidin protein.

68. (previously presented) The array of claim 67, wherein said anchoring segment is biotin.

69. (previously presented) The array of claim 1, wherein said solid support comprises a silicon dioxide-coated aluminum layer on a substantially planar glass surface, the silicon dioxide being modified with a heterobifunctional maleimide-functionalized aminosilane, and wherein said plurality of different protein-binding agents bound to said substrate each comprises,

a thiol substrate anchoring segment stably bound to the maleimide-presenting substrate surface,

a peptoid protein-binding segment, and

an aliphatic linker segment connecting and separating the anchoring and peptidomimetic segments.

70. (previously presented) The array of claim 69, wherein said maleimide-functionalized aminosilane comprises succinimidyl 4-(N-maleimidomethyl)-cyclohexane-1-carboxylate.

71. (previously presented) The array of claim 1, wherein said solid support comprises a silicon dioxide-coated aluminum layer on a substantially planar glass surface, the silicon dioxide being modified with a heterobifunctional avidin-functionalized aminosilane, and wherein said plurality of different protein-binding agents bound to said substrate each comprises,

a biotin substrate anchoring segment stably bound to the avidin-presenting substrate surface,

a peptoid protein-binding segment, and

an orthogonal peptide linker segment connecting and separating the anchoring and peptidomimetic segments.

72. (previously presented) The array of claim 71, wherein said avidin-functionalized aminosilane or aminothiol comprises an NHS-6-aminohexanoyl-6-aminohexanoyl-biotin moiety.

73. (previously presented) A kit for use in performing a differential binding assay, said kit comprising:

an array comprising

a solid substrate having a substantially planar surface comprising a layer of aluminum formed on a glass base material, the aluminum coated with a silicon dioxide coating having a thickness of between about 200 and 900Å ~~configured to amplify a fluorescent signal from a labeled protein bound to the array~~;

a plurality of different protein-binding agents bound to said substrate, each of said protein-binding agents comprising,

an anchoring segment stably bound to the substrate surface,

a peptidomimetic protein-binding segment, and

a linker segment connecting and separating the anchoring and peptidomimetic segments; and

one or more reagents for conducting a differential binding assay comprising,

a plurality of fluorescent labels for proteins.

74-78. (canceled)

79. (previously presented) The kit of claim 73, wherein said substrate surface further comprises an organic chemical modification group between the oxide and the protein-binding agents.

80. (previously presented) The kit of claim 79, wherein said organic chemical modification group comprises an aminosilane.

81. (previously presented) The kit of claim 80, wherein said aminosilane is functionalized with a maleimide.

82. (previously presented) The kit of claim 81, wherein said peptidomimetic segment is a peptoid.

83. (previously presented) The kit of claim 82, wherein said linker segment is selected from the group consisting of C2 – C100 aliphatic chains, polyethylene oxide, an orthogonal peptidomimetic or peptide oligomers.

84. (previously presented) The kit of claim 83, wherein said anchoring segment is a thiol.

85. (previously presented) The kit of claim 80, wherein said aminosilane is functionalized with an agent selected from the group consisting of hydrazide, aminooxy, N-hydroxysuccinimide, anhydride, aldehyde, disulfide, thiol, azide and phosphine.

86. (previously presented) The kit of claim 80, wherein said aminosilane is functionalized with an avidin protein.

87. (previously presented) The kit of claim 86, wherein said anchoring segment is biotin.

88. (previously presented) The kit of claim 73, wherein said solid support comprises a silicon dioxide-coated aluminum layer on a substantially planar glass surface, the silicon dioxide being modified with a heterobifunctional maleimide-functionalized aminosilane, and wherein said plurality of different protein-binding agents bound to said substrate each comprises,

a thiol substrate anchoring segment stably bound to the maleimide-presenting substrate surface,

a peptoid protein-binding segment, and

an aliphatic linker segment connecting and separating the anchoring and peptidomimetic segments.

89. (previously presented) The kit of claim 88, wherein said maleimide-functionalized aminosilane comprises succinimidyl 4-(N-maleimidomethyl)-cyclohexane-1-carboxylate.

90. (previously presented) The kit of claim 73, wherein said solid support comprises a silicon dioxide-coated aluminum layer on a substantially planar glass surface, the silicon dioxide being modified with a heterobifunctional avidin-functionalized aminosilane, and wherein said plurality of different protein-binding agents bound to said substrate each comprises,

a biotin substrate anchoring segment stably bound to the avidin-presenting substrate surface,

a peptoid protein-binding segment, and

an orthogonal peptide linker segment connecting and separating the anchoring and peptidomimetic segments.

91. (previously presented) The kit of claim 90, wherein said avidin-functionalized aminosilane or aminothiol comprises an NHS-6-aminohexanoyl-6-aminohexanoyl-biotin moiety.

92-96. (canceled)

97. (new) The kit of claim 73, wherein the fluorescent labels are amine reactive dyes.

98. (new) The kit of claim 97, wherein the amine reactive dyes are Cyanine 3 and Cyanine 5.

99. (new) The method of claim 1, further comprising a plurality of fluorescently labeled proteins, comprising at least two proteins labeled with different fluorescent labels, bound to one or more of the protein-binding agents.

100. (new) The method of claim 99, wherein the fluorescent labels are amine reactive dyes.

101. (new) The method of claim 100, wherein the fluorescent labels are Cyanine 3 and Cyanine 5.